

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A process for producing a trialkanolamine having an APHA of not more than 40, comprising:

producing a mixed alkanolamine by (1) a reaction of an alkylene oxide with liquid ammonia in the presence of a zeolite catalyst or (2) a reaction of an alkylene oxide with liquid ammonia in the presence of a zeolite catalyst and a reaction of an alkylene oxide with aqueous ammonia;

removing unreacted ammonia, water, a monoalkanolamine, and a dialkanolamine from the mixed alkanolamine to obtain a mixture deprived of low-boiling substances;

removing a high-boiling substance, which has a boiling point higher than that of the trialkanolamine, by subjecting the mixture deprived of the low-boiling substances to vacuum distillation to obtain a distillate; and

redistilling the distillate obtained by the vacuum distillation using a distillation column without a filler to obtain the trialkanolamine.

2. (Original) A process according to claim 1, wherein the unreacted ammonia is removed by means of a pressure distillation and/or nitrogen gas bubbling.

3. (Previously Presented) A process according to claim 1, wherein the water, the monoalkanolamine, and the dialkanolamine are removed continuously or batchwise by a vacuum distillation.

4. (Original) A process according to claim 1, wherein the redistillation is performed batchwise.

5. (Cancelled)
6. (Previously Presented) A process according to claim 1, wherein a distillate obtained by the redistillation is grouped into an initial fraction, an intermediate fraction, and a post fraction, and the intermediate fraction is collected as a trialkanolamine product.
7. (Previously Presented) A process according to claim 6, further comprising determining the weight percentage of the trialkanolamine in the distillate before the redistilling step.
8. (Original) A process according to claim 1, wherein the reaction requires at least part of the mixed alkanolamine to be recycled.
9. (Original) A process according to claim 1, wherein the mixed alkanolamine comprises a mono-, di-, and tri-alkanolamine.
10. (Previously Presented) A process according to claim 1, wherein the trialkanolamine is triethanolamine, the alkylene oxide is ethylene oxide, the alkanolamine is ethanol amine, the monoalkanolamine is monoethanolamine, and the dialkanolamine is diethanolamine.
11. (Previously Presented) A process for refining a trialkanolamine from a mixed alkanolamine obtained by a reaction of an alkylene oxide with ammonia, comprising:
removing unreacted ammonia, water, a monoalkanolamine, and a dialkanolamine from the mixed alkanolamine by fractional distillation to form a raw material trialkanolamine;
adding to the raw material trialkanolamine a low-boiling compound having a boiling point less than that of the trialkanolamine prior to distillation; and
distilling the resultant trialkanolamine using a distillation column without a filler.

12. (Original) A process according to claim 11, wherein the low-boiling compound is at least one selected from the group consisting of water; alcohols; ketones; esters; diols; and halogenated hydrocarbons.

13. (Previously Presented) A process according to claim 12, wherein the low-boiling compound is at least one selected from the group consisting of water, ethanol, methanol, propyl alcohol, isopropyl alcohol, butyl alcohol, t-butyl alcohol, acetone, methylethylketone, ethylene glycol monoacetate, ethylene glycol monoethyl ether acetate, monoethylene glycol, diethylene glycol, and carbon tetrachloride.

14. (Previously Presented) A process according to claim 11, wherein the low-boiling compound is at least one selected from the group consisting of water, a monoalkanolamine, and mixtures thereof.

15. (Currently Amended) A process according to claim 11, further comprising removing at least a portion of the unreacted ammonia by means of a pressure distillation and/or nitrogen gas bubbling prior to the ~~removing step~~ fractional distillation.

16. (Previously Presented) A process according to claim 11, wherein the water, the monoalkanolamine, and the dialkanolamine are removed continuously or batchwise by a vacuum distillation.

17. (Previously Presented) A process according to claim 11, wherein the mixed alkanolamine is obtained by (1) a reaction of an alkylene oxide with liquid ammonia in the presence of a zeolite catalyst or (2) a reaction of an alkylene oxide with liquid ammonia in the presence of a zeolite catalyst and a reaction of an alkylene oxide with aqueous ammonia.

18. (Original) A process according to claim 11, wherein the mixed alkanolamine comprises a mono-, di-, and tri-alkanolamine.

19. (Previously Presented) A process according to claim 11, wherein the trialkanamine is triethanolamine, the alkylene oxide is ethylene oxide, the alkanamine is ethanol amine, the monoalkanamine is monoethanolamine, and the dialkanamine is diethanolamine.